

REMARKS/ARGUMENTS

Claims 1-52 remain in this application and have been rejected by the Examiner in the Office Action mailed November 16, 2004. Claims 1, 26, and 34 are amended herein.

Claim Rejections – 35 U.S.C. § 103

A. Claims 1-8, 13, 22-28, 34-41, and 46-52

The Examiner rejected Claims 1-8, 13, 22-28, 34-41, 43, and 46-52 under 35 U.S.C. § 103(a) as being obvious in light of U.S. Pat. No. 6,369,885 to Brown et al; U.S. Pat. No. 6,410,897 to O'Neill; or U.S. Pat. No. 6,621,764 to Smith. Applicant respectfully traverses all of these rejections of these claims under 35 U.S.C. 103(a) and requests reconsideration for the following reasons.

Brown et al. discloses closed-loop infrared countermeasure system that includes a missile warning system that generates a handoff signal that includes information such as amplitude, how long the threat has been tracked, speed, intensity, and angle range from the platform.

O'Neill discloses a closed-loop countermeasure system that includes sensors to identify a potential target, a target discriminating system, a tracking system, and a directional countermeasure device all of which are mounted in the vehicle.

Smith discloses a countermeasure device mounted in a vehicle that uses optical and acoustic sensors to generate position data of the hostile fire and to provide this to a countermeasure unit mounted within the vehicle.

In contrast, the claimed invention requires that the sensor or sensor system be external to and spaced apart from the vehicle itself and that the cue signal be wirelessly transmitted to a receiver within the vehicle. The receiver in response to the cue signal activates the countermeasure system within the vehicle as amended independent claims 1, 26, and 34 now claim.

The claimed invention is directed to a system that is capable of being deployed, for example at an airport, to detect the launch of a projectile at a vehicle such as a missile or a rocket propelled grenade that is launched at an aircraft during take-off or landing. Because of this, the

sensors or sensor system are mounted typically on the ground or on platforms surrounding the airport or other installation. In this way the sensors are able to detect the desired signals and provide sensor signals to a processor. The processor processes these sensor signals to detect or discriminate a threat from the sensor signals and in some circumstances, identify the threat. The system then transmits a cue signal to a vehicle that may be in danger from the detected threat.

Neither Brown, Smith, nor O'Neill teach or suggest a system in which external sensors that are spaced apart from a vehicle provide a wirelessly transmitted cue signal to the vehicle that is used to activate a countermeasure system. Brown specifically indicates that its system 10 is incorporated into a platform 12 such as a plane, ship, or ground based installation. As specifically taught in Brown, the system 10 includes the missile warning system 16 and the countermeasure system are mounted and carried by platform 12. See Figures 1 and 2 and col. 3, lines 50-65. Thus, the sensors are not mounted external to and spaced apart from the vehicle as in the claimed invention. In addition, there is no teaching or suggestion that the cue signal should be wirelessly transmitted to the receiver to activate the countermeasure system.

O'Neill teaches a method and apparatus for a self-protection system for aircraft against missile threats. See Col. 1, lines 40-43. The self protection system includes a gimbal mounted system that includes a two color infrared detector, a wide angle lens system having a scene energy input from a pointing direction and a focusing lens system to focus the input scene energy onto the detector. The gimbal mounted system further includes a directional countermeasure device, such as a laser, that is aimed in the pointing direction. Thus, as taught in O'Neill, the sensors are collocated on the gimbal mounted system along with the countermeasure system and not external to and spaced apart from the vehicle as in the claimed invention. Moreover, there is no teaching or suggestion in O'Neill that a cue signal be wirelessly transmitted to the receiver.

Smith teaches a countermeasure system that is installed in a vehicle or installation that is to be protected, but is a self-contained system that includes both sensors and a countermeasure system. As depicted in Fig 5 of Smith, the sensor system 34 is mounted on the vehicle along with countermeasure system 42. Again as with the other references, no mention, teaching, or suggestion is made in the Smith reference to mount the sensors or sensor system external to and spaced apart from the vehicle to be protected and to wirelessly transmit a cue signal to a receiver

within the vehicle to be protected that activates the countermeasure system also within the vehicle that is to be protected.

Accordingly, independent claims 1, 26, and 34 as amended include elements that are neither taught nor suggested by the references cited by the Examiner. The Applicant respectfully requests allowance of these claims. Claims 2-25 depend from independent claim 1 and are patentable for at least the same reasons thereof. Claims 27-33 depend from independent claim 26 and are patentable for at least the same reasons thereof. Claims 35-52 depend from independent claim 34 and are patentable for at least the same reasons thereof.

B. Claims 9-12 and 14-18

The Examiner rejected Claims 9-12 and 14-18 under 35 U.S.C. § 103(a) as being unpatentable over Brown in view of U.S. Pat. No. 6,192,134 to White. The Applicant respectfully traverses the rejection of these claims under 35 U.S.C. 103(a) and requests reconsideration for the following reasons. The White reference is relied upon to teach the use of a Fast Fourier Transform digital filtering technique. Because claims 9-12 and 14-18 depend from independent claim 1 and because the White reference does not make up for the deficiencies cited above with respect to the Brown reference as noted above, the Applicant respectfully requests that this rejection be withdrawn.

C. Claims 19-21

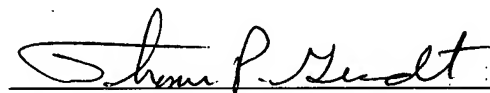
The Examiner rejected Claims 19-21 under 35 U.S.C. § 103(a) as being unpatentable over Brown in view of U.S. Pat. No. 6,178,141 to Duckworth et al. The Applicant respectfully traverses the rejection of these claims under 35 U.S.C. 103(a) and requests reconsideration for the following reasons. The Duckworth reference is relied upon to teach the use of determining the position and/or bearing of a source using time difference calculations. Because claims 19-21 depend from independent claim 1 and because the Duckworth reference does not make up for the deficiencies cited above with respect to the Brown reference as noted above, the Applicant respectfully requests that this rejection be withdrawn.

Summary and Conclusions

Based on the foregoing arguments, it is respectfully submitted that Claims 1-52 now pending in this application are in condition for allowance, and such allowance is respectfully requested. If prosecution of the application can be expedited by a telephone conference, the Examiner is invited to call the undersigned at the number given below. No further fees are believed due. However, if there are any fees due, the Commissioner is hereby authorized to charge the appropriate amount to Deposit Account No. 200675. A copy of this page is included for deposit account purposes.

Respectfully submitted,

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